A REDESCRIBED SPECIES AND A NEW GENUS AND SPECIES OF THE FAMILY LEPISMATIDAE IN CALIFORNIA

(Thysanura)

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Very little information is available on the species of this family in California. In 1896 a new species *(Lepisma rubro-violacea)* from Mexico, Arizona and California, was described by Schött. He failed to realize the importance of certain structures and did not include these in his description. However, his figures were excellent and accurately identified this species. The specimens examined by Schött were evidently lost in the San Francisco earthquake and fire of 1906, and no mention of this form has appeared in the literature since 1905.

In 1950, W. F. Barr of the University of California, collected one specimen from the desert near Borego Valley. Since this time, numerous specimens have been found in the Colorado Desert beneath stones, boards and cardboard cartons.

CTENOLEPISMA RUBRO-VIOLACEA (Schött)

Lepisma rubro-violacea (Schött, 1896. Proc. Calif. Acad. Sci., (2)6:190–192, pl. 18, figs. 45–51.

Ctenolepisma rubro-violacea Escherich, 1905. Zoologica, orig.-ab. 18 (heft 43) 95–96, fig. 39.

Redescription. Female. Length: body 10.2 mm.; antenna 10.4 mm.; cercus 10mm.; median caudal filament 11.20 mm.; ovipositor as seen from below, projecting 2 mm. from segment IX. Width: at eyes 1.6 mm.; mesothorax 2.8 mm.; Xth abdominal segment 1.6 mm.; ovipositor .2 mm. Body elongate, tapering gradually posteriorly.

Head color reddish particularly the frontal and lateral areas; thorax white with exception of prothoracic acrotergite which has strong reddish pigmentation reaching almost to center; abdomen reddish with inverted "v shaped" white areas; pigmentation becoming darker towards posterior. Scales of dorsum reddish brown with white scales surrounding each setal tuft on thorax and abdomen; ventral scales white; setae of entire body golden; legs white, pigmented with red; setal tufts on head prominent.

Labial palpus four segmented, pigmented with red; distal segment hatchet shaped with five sensory papillae arranged in a single row along anterior margin; maxillary palpus five segmented, pigmented with red.

Prothoracic sternite with five pair of setal tufts; mesothoracic sternites with two pair of setal tufts; metathoracic sternite with one pair of setal tufts.

Tergite X widely triangular and weakly rounded at tip, wider than long. Outer dorsal setal combs (lateral) on abdominal tergites I-VIII; abdominal tergites II-VII with 3+3 setal combs (i.e. one lateral, one subdorsal and one

dorsal); tergite I with 1+1 (2 inner pair lacking); tergite VIII with 2+2 (central pair lacking); IX with none; X with 1+1. Only one pair of setal combs on ventral sternites III through VII. Three pairs of reddish pigmented styli present on gonocoxites VII, VIII and IX, posterior pair longest. Cerci and median caudal filament reddish alternating with white, annulated; antennae same.

Male: similar to female except for differences in genitalia; gonocoxites of segment IX long and narrow in female, short and stout in male.

DISCUSSION. *C. rubro-violacea* and *C. lineata* (Fabricius) are very similar in appearance when the scales are removed. However, the clypeus of *C. lineata* is strongly pigmented on the lateral aspect where the setal tufts are located and in the center; in *C. rubro-violacea* the pigmentation is faint or lacking. Also the lateral aspect of the area around the setal tufts of the labrum may be faintly pigmented in *C. lineata* and not in *C. rubro-violacea.* Further, the prothoracic acrotergite is pigmented only on the lateral aspects in *C. lineata,* while on *C. rubro-violacea,* the pigmentation extends throughout except for a thin median band.

The number of setal tufts on each side of the prosternal plate in *C. rubro-violacea* may vary from 4 to 5. The remaining characteristics appear to be constant.

The description of the neotype female given above was made from a single specimen now preserved in alcohol. However, the concept of this species is based on 8 females and 11 males which were studied alive by the writer and later in alcohol. Some of the original members of this series were dissected and used for study of the internal anatomy and in part have been mounted on slides in the possession of the writer. The remaining complete specimens, consisting of the neotype ♀ and 5 neoparatypes (2♂♂ and 3 ♀♀) have been deposited at the California Academy of Sciences, San Francisco, California.

Distribution. Schött gave the following localities: Sierra Laguna, San Jose del Cabo, Baja California; Guaymas and San Miguel de Horcasitas, Sonora Mexico; Tucson, Arizona (coll. B. Eisen). In addition, he stated that this species is "richly represented in California collections and seems to be very common."

Neotype locality. CALIFORNIA: CABAZON, RIVERSIDE CO.

Material examined. Borego Junction, San Diego Co., 9 April 1950 (W. F. Barr); Cabazon, Riverside Co., 20 April 1951 (W. J. Wall, R. C. Bechtel, E. I. Schlinger and E. J. Taylor); Salton Sea Beach, Imperial Co., 21 April 1951 (W. J. W. and R. C. B.); 2 mi.

E. of "The Narrows", San Diego Co., 23 April 1951 (R. C. B.); Whitewater, Riverside Co., 28 March 1952 (R. C. B. and E. I. S.).

While collecting in the Colorado Desert near Cathedral City, the writer and E. I. Schlinger of the University of California discovered a new thysanuran beneath a large stone. Several other specimens were later taken at other localities and in two instances with *C. rubro-violacea*. The favored habitat of this new species appears to be beneath stones, boards and other places of concealment in desert areas.

Leucolepisma new genus

(Figures 1–9)

Description. Body elongate, slender, thorax wider than abdomen tapering weakly posteriorly. Head with numerous setal tufts, those arranged postero-mesad and anterio-mesad to the antennae, are large and very obvious; thoracic nota broad, each bearing a pair of setal combs on the postero-dorsal margin; lateral margins with setal tufts and individual setae; legs long, tarsal claws very long, claws of prothoracic leg at least one and one third times the second tarsal segment; three pair of dorsal abdominal setal combs on tergites II-VII; lateral setal combs on several sternites and one pair of median setal combs on several segments; ovipositor short, stout and tip armed with short, stout blunt spines.

Type of the genus: *Leucolepisma arenaria* **Wall**, new species.

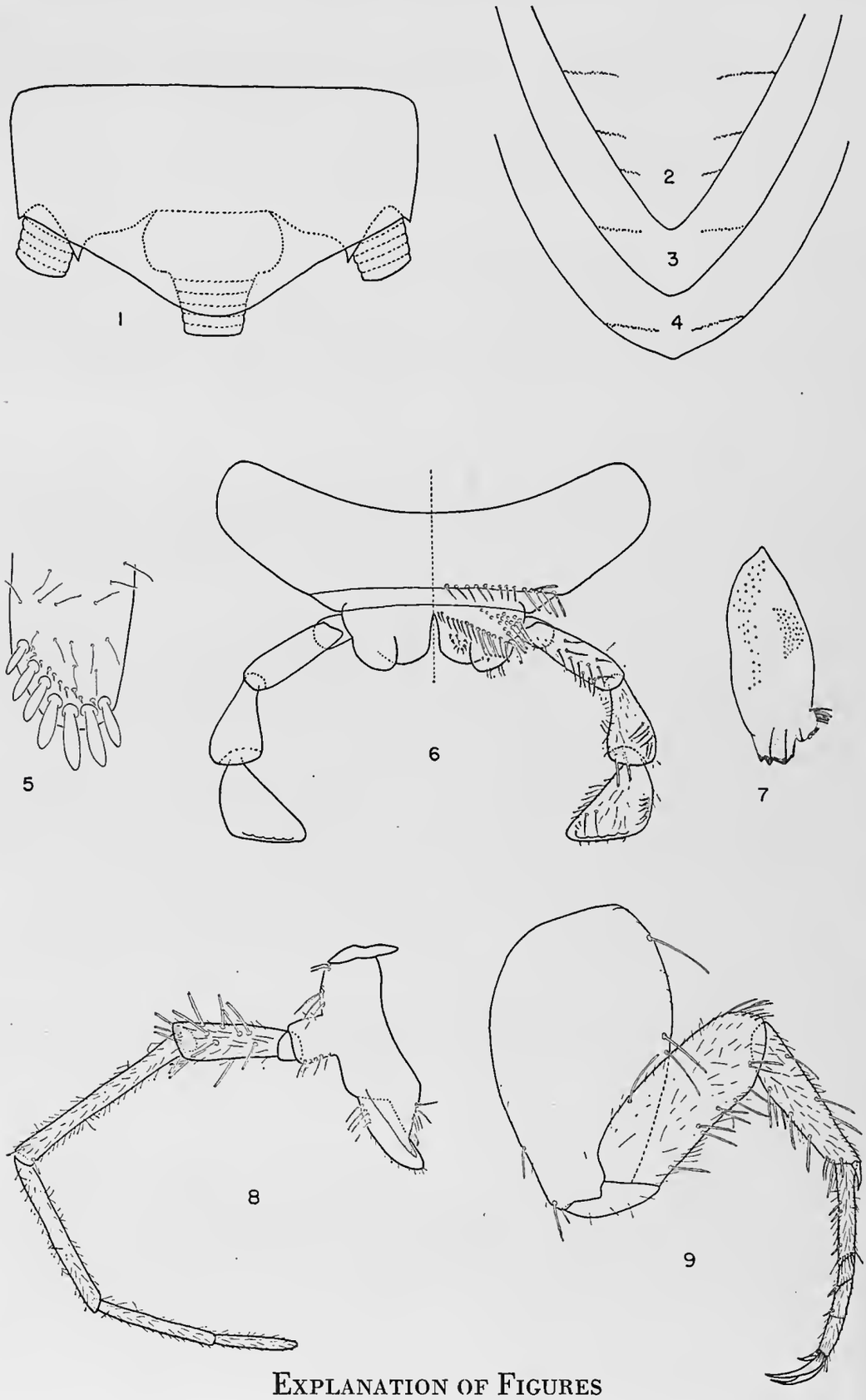
This genus is similar in general to *Thermobia* but differs in having three rows of dorsal setal combs on the lateral aspect of the abdominal tergites, instead of two; by the length of the tarsal claws, and by the short ovipositor terminating in short blunt spines.

Leucolepisma arenaria new species

(Figures 1–9)

Female. Length: body 8.16 mm.; antenna 11.60 mm.; cercus 8.16 mm.; median caudal filament 9.60 mm.; ovipositor as seen from below not extending beyond gonocoxites of segment IX. Width: at eyes 1.44 mm.; mesothorax 2.25 mm.; Xth abdominal segment 1.22 mm. Head and body color white; dorsal surface with brown and yellowish white scales forming a distinct pattern; scales of head brown; those of the thorax with alternating irregular cross bands of brown and yellowish white; those of abdomen with alternating patches of brown and yellowish white on each segment; when freshly molted, much darker; ventral surface with white scales; setal tufts of head golden. Legs white with light reddish setae and faint reddish pigmentation on tibia and 1st tarsal segment; cercus and median caudal filament reddish with light segments at intervals; antenna same.

Setal tufs of head prominent. Labial palpus four segmented, distal segment hatchet shaped, shorter than the penultimate one and bearing five large



Explanation of Figures

Leucolepisma arenaria, n.g., n.sp. Fig. 1 Abdominal tergite X. Fig. 2. Prothoracic sternite. Fig. 3. Mesothoracic sternite. Fig. 4. Metathoracic sternite. Fig. 5. Terminus of outer ovipositor valve showing digging spines. Fig. 6. Labium. Fig. 7. Left mandible. Fig. 8. Right maxilla. Fig. 9. Right prothoracic leg (note length of tarsal claws).

sensory papillae arranged in a single row along anterior margin; number of setae on inner edge of the lacinia varying from four to six; maxillary palpus six segmented.

Prothoracic sternal plate with three pair of setal tufts; mesothoracic sternal plate with one pair setal tufts; metathoracic sternal plate with one pair of setal tufts.

Tergite X, with tip narrowed, rounded, wider than long. Outer dorsal setal combs on abdominal tergites I-VIII; abdominal tergites II-VII with 3+3 setal combs (i.e. three on lateral aspect of each tergite); tergite I with 1+1 [2 dorsal (inner) pair lacking]; tergite VIII with 2+2 (subdorsal pair lacking); IX with none; X with 1+1. One pair of sublateral ventral setal combs on sternites IV-VIII and a single median row on sternites III-VII. Styli present on gonocoxites of segments VIII and IX; those on IX longer; ovipositor short and stout not extending beyond gonocoxites of sternite IX.

Male: like the female, except for differences in genitalia and while the gonocoxites of female are long and narrow, those of male are short and broad.

Holotype: Salton Sea Beach, Imperial Co., California, 22 April, 1951 (W. J. Wall and R. C. Bechtel).

Material examined. California: Magnesia Canyon, Riverside Co., 21 April 1951 (W. J. Wall and E. I. Schlinger); Borego Junction, San Diego Co., 22 April 1951 (W. J. W.); Borego Valley, San Diego Co., 22 April 1951 (W. J. W. and E. J. Taylor); 10 mi. W. of Truckhaven, San Diego Co., 11 April 1952 (W. H. Lange).

Discussion. The only variations of the characters described above are as follows: the number of setal tufts on the lateral margins of the prothoracic sternite may vary from two to four, and faint pink pigmentation may be present or absent on the thoracic nota.

The description of the holotype was made from a single specimen now preserved in alcohol. However, the writer's concept of this genus and species is based on 5 ♀♀ and 9 ♂♂ which were studied alive and later in alcohol. Some of the original members of the type series were dissected and used for study of the internal anatomy and in part are mounted on slides in the possession of the writer. The remaining complete specimens consisting of the holotype ♀ and 4 ♂♂ paratypes have been deposited at the California Academy of Sciences, San Francisco, California.

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